GPS Motorcycle/Vehicle Tracker

USER MANUAL

(Model: TK668)

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Preface

TK668 GPS Motorcycle/vehicle tracker is the cost-effective solution for security & real-time tracking. It is specially used for motorcycle/car tracking because of its compact size and water-proof design.

Read it Firstly:

Please read this manual thoroughly before you use the device; please keep it for future reference.

Attention:

(1) Please keep the device away from heavy water, high temperature, heavy dust or strong magnetism.

(2) Please prepare a valid GSM SIM card in advance.

(3) For safety reason, do not tell other people the mobile phone number of your TK668.

Warning:

We strongly suggest user let the professional car electrician to install the system.

I. Features & Functions

1. Track on command or by time interval or by distance.
2. Arm/disarm by SMS or phone call.
3. Check the car's real physical address (such as city name, street name..(need support of the TS01 or TS03 center);
4. Track by mobile SMS to get the latitude, longitude, speed, direction & odometer etc.
5. Check the location directly by the Google map's URL;
6. Online website tracking by GPRS data network;
7. Odometer function
8. Over-speed alert, Geo-fence alert;
9. Movement alert which can be used as an alarm.
10. Cut off engine to stop the car safely by SMS/GPRS;(optional)
11. Built-in 350mAh rechargeable backup battery; when the car battery is cut off or low enough, the system will send out power failure alert immediately.
12. I/O: 1 input and 1output
13. Compact size with water-proof design

II. How to Operate it

The default user password is **000000**.

If the user password is changed, user should send the SMS command with the new user password instead of 000000.

XXX is the control code, all the letters must be **capital letters or in small letters**, command with mixed capital letter & small letter is not recognized by system

Arm/Disarm by Phone Calling

User could also use the alarm-received mobile phone to call the tracker's SIM card number, so as to arm/disarm the system.

Arm: After hearing several ring tones, if the systems hang up the call automatically, and call back you, it means that the system is armed.

Disarm: After hearing several ring tones, if the system hangs up the call automatically, and don't call back you, it means that the system is disarmed.

Note:

(1) There is no communication fee for this operation, it is a very convenient way to arm & disarm the system.

(2)The SIM card inside the device must have the function of Caller ID Display.

(3) Only the **alarm-received mobile phone** can realize this function.

Arm/Disarm the System by SMS

SMS command: **000000ARM** (or **000000arm**)

This SMS instruction is used to arm the system

When the system is armed, the movement alert is activated automatically. When the motorcycle/car moves, the alarm will be triggered.

SMS command: **000000DSM** (or **000000dsm**)

This command is used to disarm the system & stop sending alert SMS.

Check the location by Google Map's URL

SMS command: **000000MAP** (or **000000map**)

Upon receiving the SMS command, the tracker will automatically send back the SMS including the Google map's URL, user can use smart phone (GPRS data service is enabled) to open the URL link, the car's location will be showed on the Google map.

Authorize the Alarm-received Mobile

SMS command: **W******,003,F,P,Mobile No.**

****** is the user password, default one is 000000.

(F=0, to turn off this function; F=1, to send alert SMS)

(P=1, the first phone; P=2, the second phone; P=3, the third phone)

In case of alert, the alarm SMS will be sent to this preset mobile no. automatically.

Example: W000000,003,1,1,13922713571 to the tracker's SIM card number, if there is any alert, system will send alert SMS to the first mobile 13922713571

Change User Password

SMS command: **W******,001,######**

****** is old password, ###### is new password, default one is 000000

The length of the user's password is 6 digits. Users are suggested to change to the new password in use.

Example: W000000,001,123456

Check the Real Physical Address

SMS command: **000000ADD** (or **000000add**)

When user sends this SMS command to the tracker, the tracker will automatically send back the car's real physical address (such as city name, street name) to your mobile by SMS. There is no need for the user to setup any server, but it needs supports from our

TS03 server.

Remark: (1) The GPRS data service of the tracker's SIM card must be activated, and the correct GPRS setting is needed (refer to the chapter of the setting of GPRS connection), user can set up the GPRS upload time interval to 0 so as to save the GPRS flow; (2) The physical address depends on the Google map's address information. If the place has very detailed information on Google map, then the physical address by SMS is very detailed.

Check the GPS Coordinates by SMS

SMS command: **000000CHK** (or **000000chk**)

This instruction is used to inquiry the vehicle's location & system's status.

The system will send back the SMS, includes the similar information, such as "System is Armed……"

Check the GSM Base Station Code

SMS command: **000000GSM** (or **000000gsm**)

This instruction is used to check the location by GSM base station code. When there is no GPS signal, user can still track the car's location with this information.

Stop the Car by SMS

SMS command: **000000STP** (or **000000stp**)

This instruction is used to cut off the power supply or fuel supply, so as to stop the motorcycle/car immediately

Attention: It is very dangerous to stop the car when the vehicle is running at high speed. We do not take any responsibility to the consequence caused by this action.

Restore the Stopped Car to Normal Status

SMS command: **000000RES** (or **000000res**)

This instruction is used to restore the car to normal status after stopping the car.

Compositive SMS Command for GPRS Setting

User can use one SMS to do all the GPRS setting, the format is:

000000WWW,APN,APN_name,APN_password;IP,PORT;GPRS;TIME

(GPRS:0 or 1, TIME: units in 10 seconds)

For example, if the APN name is web.gprs.mtnnigeria.net, APN user name web, APN password web, GPRS report time 3 minutes(=180seconds). Server's IP: www.track800.com, Server's Port: 8500, enable GPRS connection, then you can do all settings together in one SMS command:

000000WWW,web.gprs.mtnnigeria.net,web,web;www.track800.com,8500;1;00018

Other SMS Command List

Note: ****** is user's password and the default password is 000000. The tracker will only accept commands with the correct password.

Functions	SMS Command	Example
Track on Demand	W******,000	W000000,000
Remarks: To get the current location of the tracker, it carry out the same operation as ******CHK		
Track by Google Link	W******,100	W000000,100
Remarks: Remarks: Send this command to the tracker and then you receive an SMS with an http link, it carry out the same operation as ******MAP		
Change Password	W******,001,######	W000000,001,123456
Remarks: change user's password. ###### is the new password. it should be 6 digits.		
Auto Report by SMS	W******,002,XXX	W000000,002,010
Remarks: To set time interval for continuous automatic report via SMS. XXX is the interval in minute. If XXX=000 to turn off tracking by time. Example, the tracker will send location data back to your mobile phone every 10 minutes.		

Set the Alarm-received Phone	W******,003,F,P,Phone	W000000,003,1,1,13922713571
Remarks: To authorize phone numbers for receiving alarm by SMS. F=0, to turn off this function; (default) F=1, sends SMS to the authorized phone number; P=1, set an 1st authorized number P=2, set an 2nd authorized number P=3, set an 3rd authorized number Phone: Preset phone number. Max.16 digits		
Over-Speed Alarm	W******,005,XX	W000000,005,08
Remarks: When the tracker speeds higher than the preset value, it will send an SMS to the authorized phone number. XX is the preset value of speed and in 2 digits. XX=00 , to turn off this function; XX=[01-20] (unit: 10Km/h) In this example, when the tracker's speed is over 80km/h, an SMS alarm will be sent out.		
Geo-fence Alarm	W******,017,X W******,117,X	W000000,017, 11404.0000,E,2232.0010,N, 11505.1234,E,2333.5678,N
Remarks: 017 is for alarm when tracker moves out the preset scope; 117 is for alarm when tracker moves in. When the tracker moves in or out, it will send an SMS alarm to the authorized phone number for SOS. X is the coordinates which include: Lower-left X,Lower-left Y,Upper-right X,Upper-right Y For example, 11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N Note: 1. Lower-left X should be less than Upper-right X; 2. All longitudes and latitudes should be in ASCII format as follows:- Longitude: DDDMM.MMMM,E/W. 4 places of decimal. '0' is needed to be stuffed if no value available. Latitude: DDMM.MMMM,N/S. 4 places of decimal. '0' is needed to be stuffed if no value available; 3. Only one alarm can be set in either Movement Alarm or Geo-fence Alarm; 4. Send W******,006,00 to turn off Geo-fence function.		
Stop the Car in Safe Mode	W******,120,F W******,220,F	W000000,120,1 W000000,220,1
Remarks: This function is achievable only when the speed is below 10km/h (command 120) or 20km/h (command 220) and at the meantime GPS is available. F=0, to close the output (Normal) =1, to open the output (Being Stopped)		

SMS Commands for Settings of GPRS Tracking

(For mass programming, user is suggested to use application ---Parameter Editor to do the settings)

Tracker's GPRS ID	Last 14 number of IMEI number	
Remarks: The Tracker's GPRS ID is the last 14 digits of the IMEI number. User cannot change it. E.g.: IMEI:355840023214059, then GPRS ID is: 55840023214059		
Set APN	W******,011,APN,Username, Password	W000000,011,internet,web,gprs
Remarks: If no APN username and password are required, just input APN only; APN defaulted as 'internet'; APN + username + password should not over 49 characters.		
Set IP and Port	W******,012,IP,Port	W000000,012, 220.121.7.89,8500 W000000,012,www.track800.com,8500
Remarks: IP is your server's IP or the domain name. Port: [1,65534]		
Set GPRS Connection	W******,013,X	W000000,013,1
Remarks: X=0, to turn off GPRS connection (default) X=1, to enable GPRS connection via TCP X=2, to enable GPRS connection via UDP		
Set GPRS Interval	W******,014,XXXXX	W000000,014,00060
Remarks: to set time interval for sending GPRS packets. XXXXX should be in five digits and in unit of 10 seconds. XXXXX=00000, to turn off this function; XXXXX=00001~65535, time interval for sending GPRS packet and in unit of 10 seconds. In this example, the tracker will send every 600 seconds (10 minutes).		
Track by Distance	W******,045,X	W000000,045,100
X=0, to turn off this function. X=[1-65535], to set the distance. (unit: meters) Example: when the vehicle travels at the distance of 100 meters, the tracker will report the present location immediately to the center by GPRS.		
Veer Report	W******,036,degree	W000000,036,90

Remarks: when the vehicle turns a corner which is larger than the preset degree, the tracker will report the present location immediately to the center by GPRS. degree=0, to turn off this function. degree=[1,360], to set degree of direction change.		
Sleep Mode	W******,026,XX	W000000,026,10
The tracker will go into sleep mode when the inbuilt motion sensor is not activated or engine is turned OFF after XX minutes. In sleep mode, the GPRS connection will be closed, but the tracker will wake up once it has incoming call, SMS, input triggering or motion triggering. XX=00, to turn off sleep mode & power save function. XX=01~99, it is the time for the tracker to enter into sleep mode after it is not activated. XX is the time in unit of minutes. (In this example, the tracker will enter sleep mode after it is inactive for 10 minutes.)		
Set Time Zone	W******,032,T	W000000,032,480 W000000,032,-120
Remarks: Default time of the tracker is GMT, you can use this command to correct it to your local time. This command is for SMS display only. T=0, to turn off this function. T=[1, 65535] to set time difference in minute to GMT. For those ahead of GMT, just input the time difference in minute directly. For example, GMT+8, W000000,032,480 '-'is required for those behind GMT. For example, W000000,032,-120.		
Get GPRS Settings	******WWW	000000WWW
Remarks: to get the GPRS settings (such as ID, APN, IP, Port, report intervals).		
Get Firmware Version	W******,600	W000000,600
Remarks: to get the version of tracker's firmware		
Get IMEI number	W******,601	W000000,601
Remarks: to get the IMEI number of tracker's GSM module		
Reboot	W******,900###	W000000,900###
Remarks: to reboot the tracker, all the parameters will not be changed		
Initialization	W******,990,099###	W000000,990,099###

Remarks: Send this SMS to the tracker to make all settings (except the password & odometer) back to factory default settings. ### is the ending character.		
Reset Odometer	W******,046	W000000,046
Remarks: This command will reset the odometer to 0, and start calculation from 0 again.		
Reset Password	W888888,999,666	W888888,999,666
Remarks: Send this SMS to the tracker to reset the password as 000000		

III. Alarm Types

Power Failure Alarm

In arming status, if the car/motorcycle's battery is cut off, it will trigger this alarm.

Movement Alarm

In arming status, the movement alert is enabled automatically. Once the car moves away from the parking point for 80 meters, it will trigger this alarm. This function is very useful. You can use the tracker as a simple alarm. For example: User set this mobile as the 1st alarm-received no, when he parks the car, he just calls the tracker to arm. Once the car moves away, movement alarm is triggered & system will send SMS to user mobile.

Geo-Fence Alarm

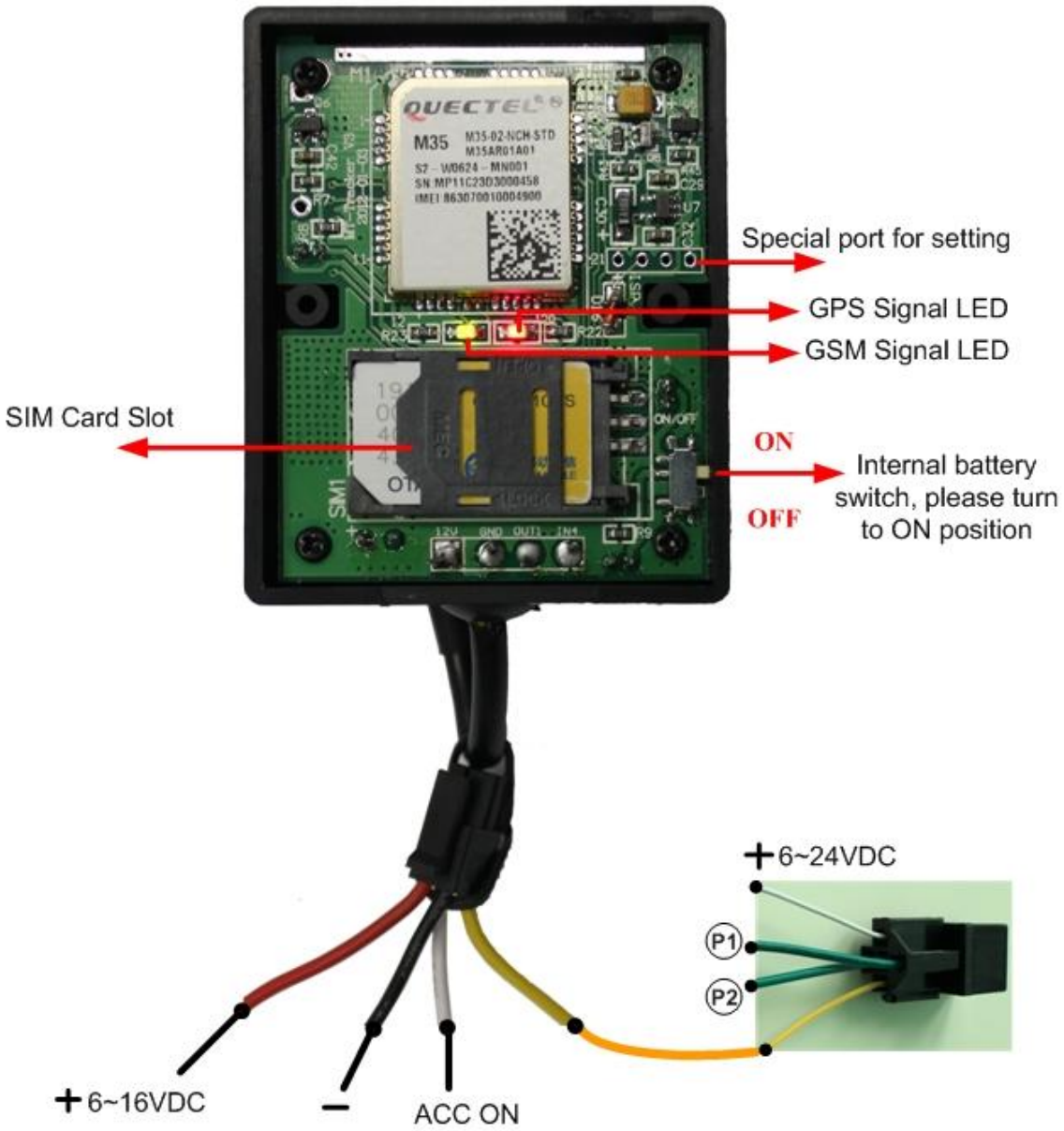
Once the Geo-fence is activated, if the car/motorcycle oversteps the boundary, it will trigger this alarm.

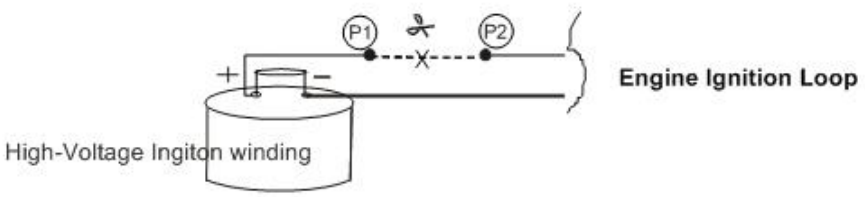
Over-speed Alarm

If the car/motorcycle runs over the speed limitation, it will trigger this alarm.

(Remark: this function is just for reference, because there might be some time delay or error in detecting the running car's real speed by GPS.)

IV. Installation



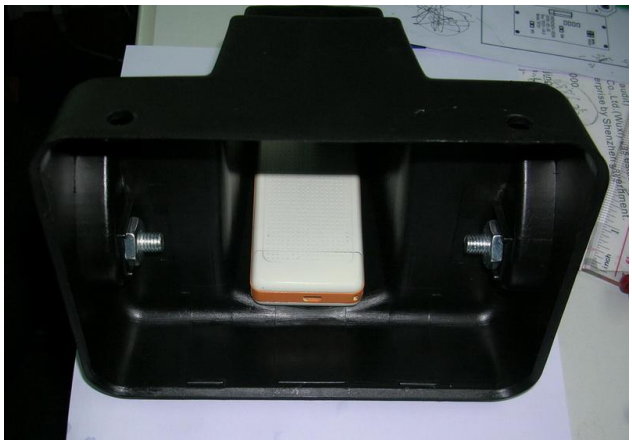


Notes:

(1). The relay's control output (P1 & P2, no polarity) has 2 kinds of connections. It can be used to cut off the engine ignition loop or the fuel pump's power supply loop.
(2). Please place the side with GPS antenna upside to the sky, so that it can receive good GPS signal.

Installation Steps:

(1) Please read the manual carefully before installation. Please prepare a valid GSM SIM card with Caller ID Display & GPRS function;
(2) Please use the screw driver to open the cover;
(3) Insert the valid GSM SIM card, then turn on the power switch;
(4) Close the cover, and fix the main unit tightly with the wiring harness at the correct place, please make sure that the side with GPS antenna is placed upside to sky, please make sure to install the main unit at broad place so that it can receive GPS signal well. For motorcycle, it is better to install inside the head bulb light where there is power supply and water proof. For vehicle, it is better to install inside the upper rim of the driving room or inside the dashboard. The recommend installation place is showed in the following picture:



For motorcycle

For vehicle

(5) Do the wring connection according to the diagram;
(6) Call the SIM card, to check if rings, if not, then check the power supply and the change the place of installation;
(7) If it rings when calling the SIM card, then send SMS to the tracker to check the GPS coordinate, if the GPS location is not correct, then fix the main unit to other place so that it can receive better GPS signal.

(8) IMPORTANT: The side with GPS antenna must be placed upside to the sky and kept away from the metal materials, otherwise, it can't get GPS signal well.

V . Specifications

Working voltage:	+5.3 ~+24VDC
Power Consumption:	Working current: 50mA; Peak current: 800mA;
Inside Backup battery:	Rechargeable 3.7V 350mAh Li-ion battery
Size of the main unit:	62*50*22 (mm)
Weight of the main unit:	65g
Working temperature:	-20 ~ 85℃
Humidity:	0 ~ 95%
GSM frequencies:	Quad-band: 850MHz/900MHz/1800MHz/1900MHz
GPS chip:	Latest U-blox chipset (or SkyQ)
Receiving ways	20 channels
Working frequencies	1575.42Mhz C/A（GPS）
Receiving sensibility	-162dBm
Positioning accuracy	≤10m (wide-open area)
Speed accuracy	≤0.2M/S (wide-open area)
Positioning mode	Auto 2D/3D
Hot start	1 sec., average
Warm start	2 sec., average
Cold start	40 sec., average

VI. FAQs & Troubleshooting

FAQ	Troubleshooting
I call the tracker, it does not ring	(1) The GSM SIM card has no credit; (2) The SIM card is protected by PIN code; (3) Check the power supply, if 2 LEDs flash; (4) The SIM card is placed correctly in the slot;
I call the tracker, it rings, but it doesn't response with SMS	(1)The user password is wrong, please use the correct password or reset the password to test; (2) Low power, please use outside power supply to power on the unit to test
I can not get the alarm message	(1) The SIM card inside the device has no credit; (2) The Alert-received mobile number is not programmed correctly, or the SMS command is not in correct format; (3) The mailbox of the user's mobile is full;

I can not get the correct GPS coordinates or the location is wrong	(1) Please make sure there is no metal obstacles above the tracker. Please place the side with GPS antenna upside to the sky; (2) Please check it at broad place; (3) Please check if the GPS LED flash once every 3 seconds; place the tracker to other place, so as to make sure that it can receive the GPS siganl well (4) In cloudy condition, it is a little hard to get the GPS signal, and the GPS coordinate might have some errors.
Tracker fails to connect to server by GPRS	(1) The SIM card must be activated with GPRS function; (2) Do the correct setting for GPRS connection

VII. Maintenance

- ✧ Please make the local professionals to do the installation & maintenance of the GPS terminal. If the user assemble/ disassemble or repair the terminal without permission, we hold no responsibility for any loss caused thereafter.
- ✧ Please keep the terminal dry. In case of soaking or leaking water, contact the local professionals. Do not start the car yourself, or we hold no responsibility for any loss caused thereafter.
- ✧ When the car is inside buildings, cave, tunnel, or very close to tall buildings, the GPS/ GSM signal may not work well and the system may fail to work at that moment.
- ✧ Please check the balance of the tracker's SIM card periodically.
- ✧ The backup battery. The backup battery can only work for a certain time when temporary power off.
- ✧ For any other unusual situations, please contact the local agent.